Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
Preserving the Open Internet	)	GN Docket No. 09-191
Broadband Industry Practices	)	WC Docket No. 07-52

COMMENTS OF DISH NETWORK L.L.C.

Jeffrey H. Blum, Senior Vice President &
Deputy General Counsel
Alison A. Minea, Corporate Counsel
DISH NETWORK L.L.C.
1110 Vermont Avenue NW, Suite 750
Washington, D.C. 20005
(202) 293-0981

October 12, 2010

TABLE OF CONTENTS

I. INTRODUCTION AND SUMMARY

DISH Network L.L.C. ("DISH") files these comments in response to the Commission's *Public Notice* asking for additional input on so-called "specialized services" and wireless broadband services for its Open Internet proceeding ("*Public Notice*").[1] DISH urges the Commission to immediately clarify its authority over broadband Internet access service by adopting the "Third Way," even as it garners further record support on how to treat specialized services and wireless broadband Internet access within the Open Internet proceeding.

To protect the public and competition, "specialized services" should be subject to the same open Internet safeguards as the rest of the Internet. Any outright exemption of "specialized services" from open Internet protections would cripple competitive programming options, not just from DISH, but from other innovative and independent online service providers as well. Clear rules are needed to ensure that vertically-integrated broadband providers do not deploy specialized services for online video that discriminate against the online video offerings of their pay-TV competitors.

At a minimum, the Commission should craft specific nondiscrimination rules for specialized services that would prevent the most egregious discrimination by requiring "like-for-like" treatment of all content and applications within the same class of service. This would prevent discrimination against services that use the open Internet and which compete, or seek to compete, with the specialized services offered by broadband providers. To ensure that its nondiscrimination rules are followed, the Commission must also adopt broad and

---

[1] *See* FCC Public Notice, *Further Inquiry Into Two Under-Developed Issues in the Open Internet Proceeding*, DA 10-1667, GN Docket No. 09-191, WC Docket No. 07-52 (rel. Sept. 1, 2010) ("*Public Notice*").

enforceable disclosure rules to enable the agency, consumers, and competitors to obtain critical information about the effect of specialized services on the open Internet.

The Commission should also immediately move to adopt open Internet protections for all providers of broadband access to the Internet, regardless of whether such access is provided over wireline or wireless connections. The record in this proceeding overwhelmingly demonstrates that there is no policy or technological justification for exempting wireless broadband providers from open Internet safeguards. Any network congestion issues that arise that are unique to the wireless architecture should be dealt with through appropriately tailored allowances for reasonable network management, not by any blanket exemptions for wireless from open Internet rules. DISH does not object to tiered pricing for wireless broadband access services, provided there are no favored applications exempt from any data caps.

As a multichannel video programming distributor ("MVPD") to over 14.3 million subscribers through a fleet of direct broadcast satellites ("DBS"), DISH has a direct interest in ensuring that consumers have choice among all online video offerings. DISH must rely on the broadband connection often supplied to DISH subscribers by its direct competitors to deliver Video-on-Demand ("VOD") and other online content. Consumers are increasingly demanding this type of content from their MVPD, regardless of whether the MVPD is a cable operator, telco, or DBS provider. A competitive MVPD must deliver this increasingly important service component or else risk losing subscribers to providers that can offer the full array of linear, on-demand, and online programming. DISH also has a particularly strong interest in appropriate rules for wireless service, as it increasingly markets to its subscribers the opportunity to view its services everywhere by obtaining the Slingbox product of DISH's

affiliate, EchoStar Corporation, and then equipping their wireless tablet computers or smartphones with the SlingPlayer software. Enjoyment of the wireless SlingPlayer product depends crucially on a robust broadband connection that is not gerrymandered artificially by broadband providers.

II. ONLINE VIDEO OFFERINGS ARE A CRITICAL COMPONENT OF ANY PAY-TV PROVIDER'S SERVICE

Internet-delivered VOD and other online video are becoming "must have" components of every MVPD's pay-TV package. Every major MVPD now offers an online video service in addition to linear channels delivered over wireline or satellite connections. Although VOD content (for example, the ability to order a pay-per-view movie through an on-screen guide) has been available for years,[2] every major MVPD now offer its subscribers online access to certain video content.[3]

---

[2] *See, e.g.*, Comcast Press Release, *Comcast Kicks Off the New Year with More Choices Anytime*, Dec. 28, 2009, *available at* http://www.comcast.com/About/PressRelease/PressReleaseDetail.ashx?PRID=950 (last visited Oct. 12, 2010) (recent enhancements to Comcast's existing online video service include new release movies available the same day as DVD release); AT&T Press Release, *AT&T U-verse Expands Video On Demand Library With HD VOD Titles*, Sept. 5, 2008, *available at* http://www.att.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=26059 (last visited Oct. 12, 2010) (describing enhancements to AT&T U-Verse VoD service to include expanded library of HD movies); DirecTV Press Release, *DIRECTV On Demand Now Available Nationwide*, June 30, 2008, *available at* http://dtv.client.shareholder.com/releasedetail.cfm?releaseid=318983 (last visited Oct. 12, 2010); Cablevision News Release, *Cablevision Significantly Expands Free Video On Demand Lineup with Programming from Eight Popular Networks*, July 7, 2009, *available at* http://www.cablevision.com/about/news/article.jsp?d=070709 (last visited Oct. 12, 2010); SuddenLink Press Release, *Video on Demand to Launch in West Texas*, Sept. 18, 2008, *available at* http://suddenlinkfyi.com/2008/09/18/video-on-demand-to-launch-in-west-texas/ (last visited Oct. 12, 2010) (announcing new Suddenlink VoD service offering thousands of viewing choices).

[3] *See, e.g.*, Verizon Press Release, *Home Box Office and Verizon Introduce MAX GOSM, Bringing FiOS TV Customers CINEMAX® Programming Online - Any Time, Any Place*, Sept. 9, 2010, *available at* http://newscenter.verizon.com/press-releases/verizon/2010/home-box-office-and-verizon.html (last visited Oct. 12, 2010); Ryan Lawler, *Comcast to Revamp Its TV Everywhere Service*, NewTeeVee, May 11, 2010, *available at* http://newteevee.com/2010/05/11/comcast-to-revamp-its-tv-everywhere-service/ (last visited Oct. 12, 2010) (previewing Comcast's plan to "revamp[] its TV Everywhere offering and . . .make it easier to access from PCs [and] the iPad and other consumer

DISH and the other DBS provider, DIRECTV, have both moved to remain competitive in this dynamic market by offering online content as well. In particular, DISH is integrating online content with linear television channels through the DishOnline service.[4] But although DBS technology is very suitable for delivering linear, high-definition channels at affordable prices, neither DBS provider controls a last-mile broadband transmission facility into the home. This places DBS providers at a distinct disadvantage in relation to MVPDs that offer both pay-TV programming and broadband Internet access. DISH subscribers must connect their set-top boxes ("STBs") to a broadband connection provided and managed by a third party—most often a direct DISH competitor—to order and watch DishOnline content. The success of DishOnline is thus dependent on broadband access provided and controlled by DISH's competitors in the MVPD market (primarily, Comcast, Verizon, and AT&T). As a result, open Internet safeguards are critical to ensuring that DBS providers can continue to remain competitive with other pay-TV providers.

---

electronic devices"); Chris Albrecht, *DirecTV Joins TV Everywhere Chorus*, GigaOm, Aug. 7, 2009, *available at* http://newteevee.com/2009/08/07/directv-joins-tv-everywhere-chorus/ (last visited Oct. 12, 2010) (noting DIRECTV's plan to launch an authenticated TV Everywhere service); *AT&T Extends TV Watching to More Devices with Launch of U-verse TV on Xbox 360*, StockMarketsReview.com, Oct. 12, 2010, *available at* http://stockmarketsreview.com/pressrelease/2010/10/12/att-extends-tv-watching-to-more-devices-with-launch-of-u-verse-tv-on-xbox-360/ (last visited Oct. 12, 2010); Time Warner Cable Press Release, *Disney/ABC, ESPN and Time Warner Cable Sign Long-Term, Wide-Ranging Agreement to Carry a Variety of Video & Digital Services - Agreement Includes Several New Services for Subscribers, Including Disney Junior, ESPN3.com, ESPN Goal Line, ESPN Buzzer Beater and Expanded VOD Offerings*, Sept. 2, 2010, *available at* http://www.timewarnercable.com/nynj/about/inthenewsdetails.ashx?PRID=3004&MarketID=50 (last visited Oct. 12, 2010); Cablevision Press Release, *Cablevision Announces First-of-its-Kind Services That Will Seamlessly Connect Computer and Television Screens with the Press of a Button*, Feb. 24, 2010, *available at* http://www.cablevision.com/pdf/news/022410.pdf (last visited Oct. 12, 2010).

[4] DishOnline is the only online video portal that integrates live and recorded TV with more than 150,000 popular movies, TV shows, clips and trailers into one easy-to-use interface. *See* DISH Network Press Release, *DISH Network Introduces Only Online Video Portal with Live TV Integration*, Aug. 24, 2010, *available at* http://dishnetwork.mediaroom.com/index.php?s=8778&item=12840 (last visited Oct. 12, 2010).

III. EXEMPTING AN AMORPHOUS CATEGORY OF SPECIALIZED SERVICES FROM OPEN INTERNET SAFEGUARDS WOULD ENABLE DISCRIMINATION AGAINST COMPETITIVE ONLINE SERVICES AND DECREASE INCENTIVES TO INVEST IN THE OPEN INTERNET

Because vertically-integrated broadband providers have the ability and incentive to degrade competitors' online video services, the public interest cannot afford a tractor-trailer-sized "specialized services" loophole if we want to ensure that competition and diversity continue to thrive in the MVPD marketplace. Failure to immediately address this issue places years of successful pro-competition policies at risk.[5]

A. The Open Internet Will Suffer if Broadband Providers Create Dedicated Fast Lanes for Their Own Services or Those of Paying Customers

Although applications such as telemedicine are often bandied about as "examples" of specialized services, proponents of exempting specialized services from open Internet safeguards do not propose to limit specialized services to public health and safety applications.[6] Indeed, health applications are often mentioned in the same sentence with online video gaming. Nor does the relevant provision in the much-debated Google/Verizon framework limit specialized services to such narrow niches. To the contrary, that agreement hardly limits their potential scope at all, referring as it does to an amorphous category of "new entertainment options."[7] As the Commission recognizes in the *Public Notice*,[8] what is

---

[5] The program access rules were first adopted in 1993. *See* 47 U.S.C. § 548, 47 C.F.R. § 76.1200 et seq., and *Implementation of Sections 12 and 19 of the Cable Television Protection and Competition Act of 1992*, First Report and Order, MM Docket No. 92-265, FCC 93-178, 8 FCC Rcd 3359 (1993). Since that time, two DBS providers that were nonexistent at the time have been able to develop and offer consumers valuable video programming alternatives. *See, e.g., Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, MB Docket No. 06-189, FCC 07-206, Thirteenth Annual Report, 24 FCC Rcd 542, ¶¶ 6, 12 (2009).

[6] *See, e.g.*, Tom Tauke, Verizon Executive Vice President of Public Affairs, Policy and Communications and Alan Davidson, Google Director of Public Policy, *A Joint Proposal for an Open Internet, Policy Blog* (posted Aug. 9, 2010) ("*Verizon-Google Legislative Framework*").

[7] *See id.*

essentially broadband access can masquerade as a specialized service with just a little window dressing.

As an initial matter, DISH strongly agrees with the premise offered in the *Public Notice* that "[o]pen Internet protections may be weakened if broadband providers offer specialized services that are substantially similar to, but do not technically meet the definition of, broadband Internet access service, and if consumer protections do not apply to such services."[9] As the *Public Notice* further recognizes, "broadband providers may provide other [specialized] services over the same last-mile facilities used to provide broadband Internet access service."[10]

We offer two such examples of "specialized services" that would pose a grave threat to the open Internet and to the ability of DISH and others to compete in the pay-TV market:

(a) A separate or dedicated channel on a broadband provider's network to support a particular online application or service (such as the broadband provider's online video services), or

(b) A Quality-of-Service ("QoS") guarantee provided to a particular online application or service traveling on the public Internet.

Broadband providers today have the technical capability to deploy both of these types of architectures, and each poses serious threats to the open Internet unless strict safeguards are put in place.

B. Reserving a Portion of the Broadband Access Pipe for Specialized Services Would Harm Competitive Services Offered on the Open Internet

Broadband providers have the capability to place specific Internet Protocol ("IP") based services on separate, protected portions of their broadband pipe. For purposes of this

---

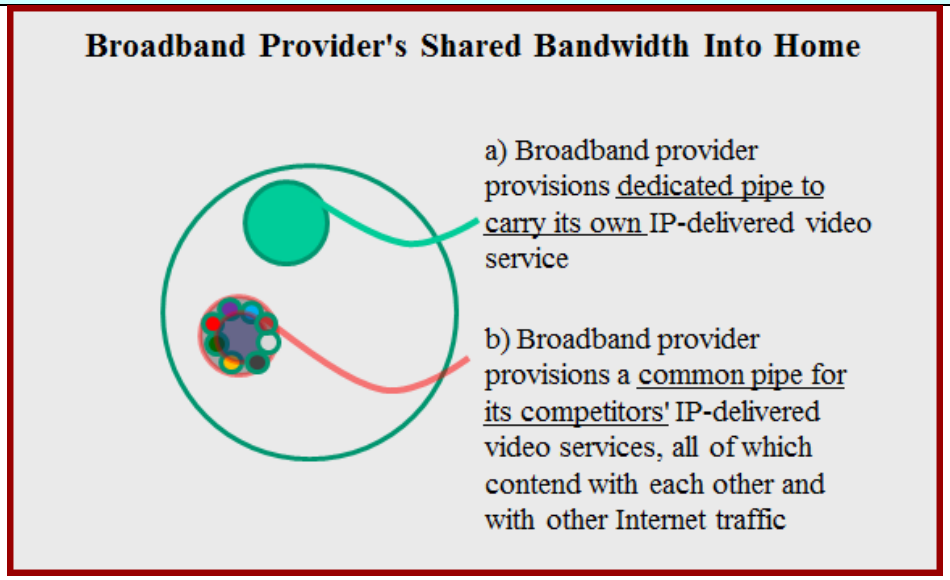
8 *Public Notice* at 2.

9 *Id.*

10 *Id*.

discussion, we use IP-delivered video offerings as an example of services that a broadband provider could choose to deliver via dedicated portions of the pipe. The broadband provider currently has the ability to provision its own specialized services in a manner so as to avoid the "contention" for bandwidth felt by their competitors on the shared public Internet pipe into the home. This architecture is depicted in Figure 1 below.

Figure 1:
Video viewing experience degraded for competitor IP-delivered video due to contention for bandwidth on the "common pipe" compared to broadband provider's dedicated pipe.

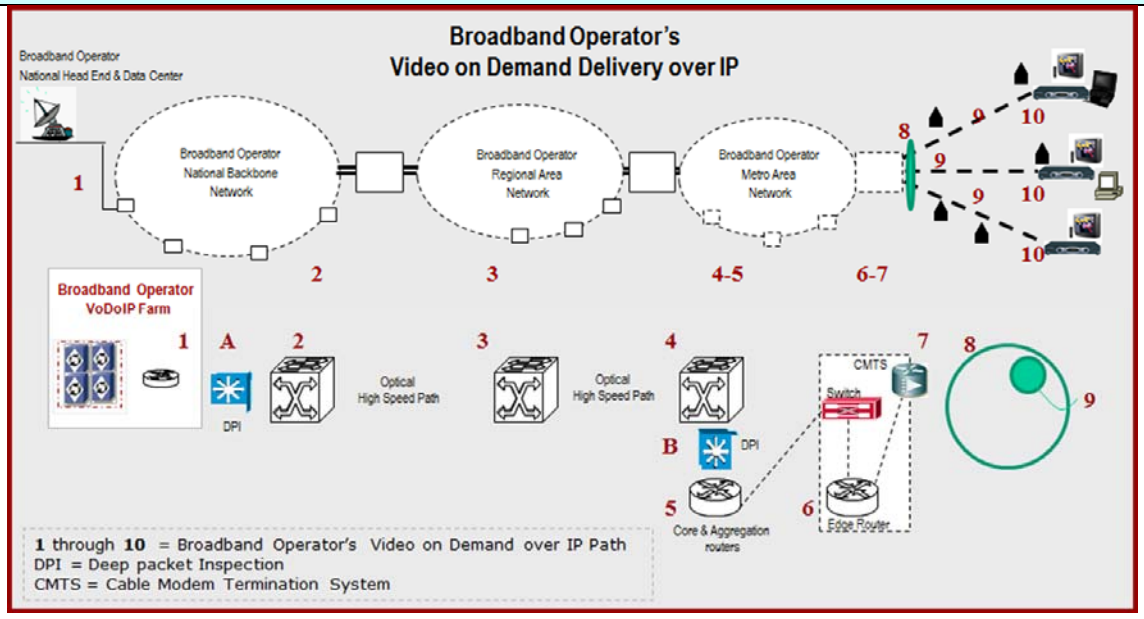


Because of the architectural features of broadband networks, broadband providers can decide how much of the pipe to allocate for their own proprietary IP-delivered video services, and how much to allocate for the public Internet on which every other competitive online video service must ride. As explained below, the difference between a service using a dedicated portion of the broadband pipe and a competing one having to navigate the open Internet could become akin to the difference between cruising on an Interstate highway and haltingly struggling along a back-country road pockmarked with stop signs and speed bumps.

Pathway for Broadband Providers' Integrated IP-Delivered Video Services

Given that broadband providers can dedicate protected capacity on their pipe to their own IP-delivered video services, customers are more likely to experience a superior viewing experience because no other IP traffic is able to interfere with delivery. Figure 2, below, depicts a typical pathway that a broadband provider might set up to deliver video offerings to its subscribers using IP. The consumer has a set-top box (#10 in Figure 2) that is able to request a specific unicast video stream from the broadband provider's headend (#1 in Figure 2). The video could be delivered as a native IP stream that transports MPEG-2 or MPEG-4 packets carrying the video content or by other proprietary payloads encapsulated as IP packets. The broadband provider typically would provision a service that allows for this video to be delivered on a high quality, high speed pathway from #1 through #8 in Figure 2, traversing the national, regional and metropolitan networks and finally getting delivered via a dedicated pipe (#9 in Figure 2) into the residence. The set-top box (#10 in Figure 2) can then transform back the video payload for display.

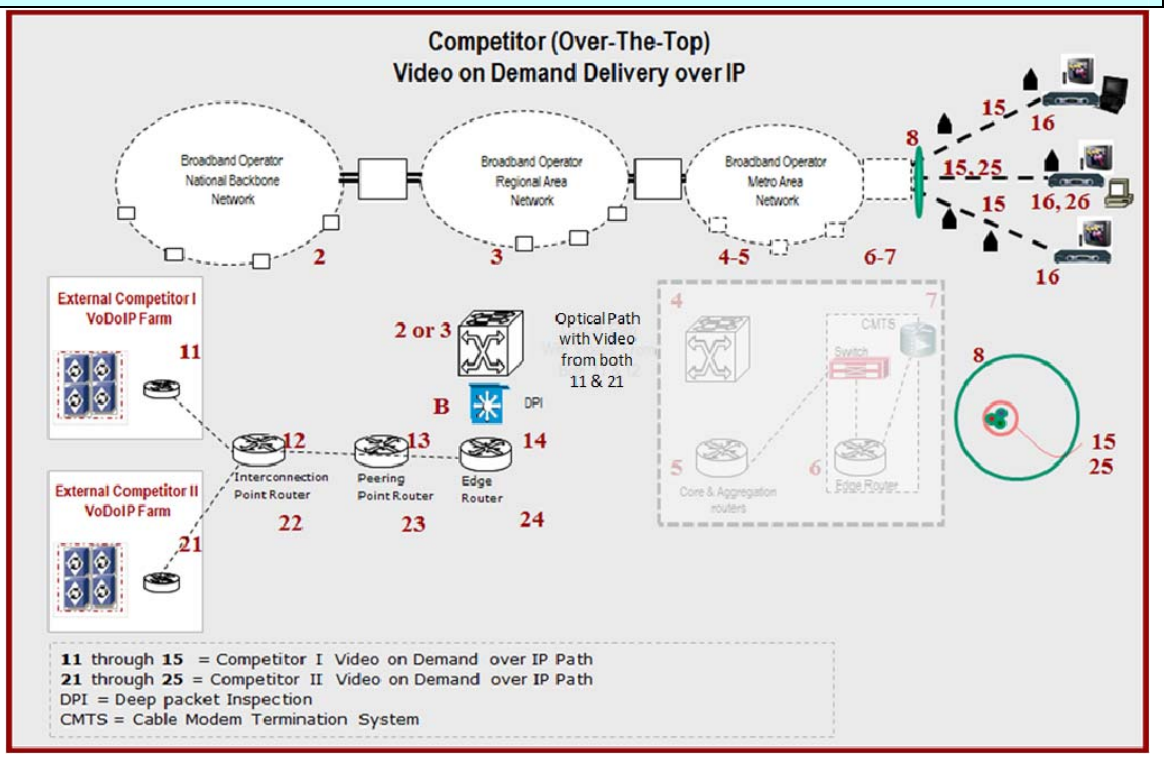
Figure 2:
Broadband provider's specialized service delivery of IP-delivered video



Pathway for Competing Video Services Over Broadband Provider Networks

Competitors such as DISH Network must deliver online video services over the public Internet portion of the pipe on a broadband provider's network. When competing video providers must share a portion of the pipe allocated for all public Internet traffic, end users may experience a loss in quality of service as more and more video traffic contends for a finite amount of bandwidth. Given that broadband providers have the capability to allocate specific portions of their pipe for their own IP-delivered video services, broadband providers have every incentive to squeeze the size of the public Internet portion of the pipe, where all of their video competitors' services must take their chances in attempting to reach customers. Figure 3, below, illustrates the path for competitive video applications (such as DISH's online video service) riding on the public Internet, in contrast to the dedicated capacity enjoyed by the broadband providers' own IP-delivered services discussed in Figure 2, above.

Figure 3:
Competitors' delivery of online video over IP



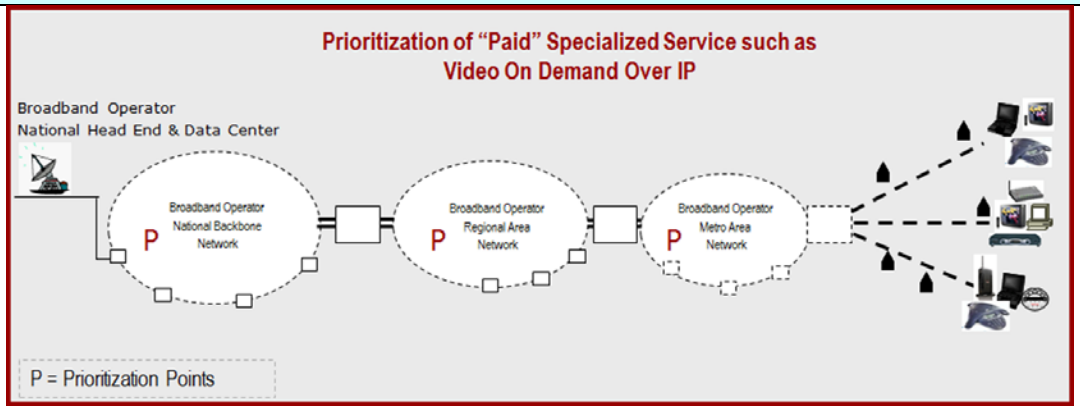
Competitors may serve their online video services either through their own content server farm hosted as part of their over-the-top services (#11 or #21 in Figure 3), or via a third party application service provider. Competitors can interconnect at a designated point of interconnection (#2 or #3 in Figure 3), typically via peering points. When the consumer requests a video from the competitor, it will be delivered (from the content server farm, through #12, #13, and #14 in Figure 3) and eventually via the last mile pipe (#8 in Figure 3) to the set-top box (#16 in Figure 3). A competitors' video will contend for bandwidth within the same shared pipe in the last mile to the home, illustrated at #15 and #25 in Figure 3. Competitors' video services will thus contend with each other on the public Internet portion of the pipe, as well as with contend with other types of traffic that could include the normal broadband data service.

C. Paid Prioritization Arrangements Discriminate Against Competitive Offerings

Specialized services could also take the form of quality-of-service ("QoS") guarantees for certain content and applications that ride on the public Internet. For example, rather than move IP-delivered video services to a separate, dedicated portion of the pipe as described above, broadband providers have the technological means to prioritize their own video services, or those of their paying customers, that are delivered over the public Internet. The evolution of "Deep Packet Inspection" ("DPI") technology enables a broadband provider to implement rules within its network to assign increased priority to delivery of certain services based on their point of origin or the nature of the content. Figure 4 provides a bird's eye view of the entry points where a broadband provider could choose to apply preferential prioritization. Conversely, this same technology could also be used to specifically degrade or slow the delivery of a particular online video stream, a tactic in which the broadband provider

would be particularly apt to engage if such service was offered by one of its competitors in the pay-TV market. The outcome of this type of discriminatory practice is that a competitor's online video service will seem to degrade faster under deteriorating network conditions, while the prioritized services will seem to be stable.

Figure 4:
Discrimination of service by origin and/or type enabled by selective prioritization



Broadband providers could deploy DPI either to provide for prioritized treatment of their own integrated online video services, or to offer paid prioritization to third parties. Today, DPI prioritization queuing is one of the least-cost methods available (approximately $1/Mbps delivered to the consumer) for broadband providers to discriminate against content from competitors. DPI would be difficult to detect by competitors and consumers, because any such detection would require access to the broadband provider's network facilities and network architecture.

IV. THE COMMISSION SHOULD PROHIBIT OUTRIGHT SPECIALIZED SERVICES AS OUTLINED ABOVE, OR IN THE ALTERNATIVE ADOPT STRICT SAFEGUARDS TO ADDRESS DISCRIMINATORY CONDUCT

The Commission can best preserve and foster the growth of the open Internet by prohibiting outright the types of discriminatory behavior masquerading as "specialized services" described above, both the allocation of separate bandwidth for a broadband

provider's favored online content and applications, as well as all paid prioritization arrangements. To the extent the Commission believes that a robust and open Internet can accommodate some forms of specialized services, however, DISH urges the Commission to impose strict safeguards to protect consumers, promote innovation, and nurture competition. Some of the possible remedies suggested in the *Public Notice* could be useful, but they do not do enough to protect consumers and preserve the open Internet.

A. Allowing Broadband Providers to Reserve a Portion of the Pipe or to Prioritize Affiliated or Paying Content Would Decrease Investment in the Open Internet

Consumers, competition, and innovation will be harmed if the Internet ecosystem becomes a two-tiered environment where preferred traffic travels on an optimized, segregated platform or is granted priority access, while public Internet traffic is relegated to a "windy dirt road." As a result, it is critical that all specialized services be subject to open Internet safeguards, including a robust nondiscrimination rule. Generally, the Commission should not allow broadband providers to move QoS-sensitive content off the "best effort" Internet portion of their pipe, where open Internet rules would apply, onto a dedicated path, where open Internet rules would not apply,[11] and should also ban all forms of paid prioritization.[12] Such pipeline "reservations" and pay-to-play schemes fundamentally undermine the open

[11] DISH does not oppose a limited exemption that would allow a vertically-integrated broadband provider to partition off linear television channels to maintain quality-of-service. Vertically-integrated broadband providers do not have bottleneck control over one-way delivery of linear channels, because competition from service providers using other technologies, such as satellite, can provide a comparable consumer experience. Such an exemption should be limited to: "[a] portion of the electromagnetic frequency spectrum that is used by an MVPD for the one-way transmission of linear television channels to residential subscribers." Any exception for linear video programming should not extend to online video or any other two-way services that compete with content delivered over the public Internet.

[12] *See* DISH Network L.L.C. Comments, *Preserving the Open Internet*, GN Docket No. 09-191, WC Docket No. 07-52, at 10-14 (filed April 8, 2010) ("*DISH Open Internet Reply Comments*").

Internet by encouraging broadband providers to invest first and foremost in the capacity for, and creation of, these specialized services.

Were specialized services wholly exempt from open Internet rules, consumers would no longer be the masters of their own Internet experience. Instead, the broadband provider would be able to decide what content and applications merit timely access to the consumer, and thus the value to consumers of the open, public Internet gradually will diminish. If broadband providers can place their high-value IP-delivered services on separate, dedicated bandwidth on their network, the economic incentives dictate that they will decline to maintain and expand the portion of the pipe allocated to the public Internet. The same incentives would apply if broadband providers were allowed to issue priority guarantees. As prominent economists have noted, broadband providers can artificially drive up the value of prioritized services by deliberately declining to expand capacity on their networks and precipitating a scarcity of network resources.[13] In an environment of reduced capacity and increasing congestion, broadband providers will form only a limited number of reserved capacity and paid-priority business relationships, leaving other online businesses at a disadvantage.

As a concrete example, by deciding not to keep investing in upgrading the routing equipment at known competitor interconnection points, the broadband provider will cause increased jitter and latency in the online services traveling over the public Internet. This leads

[13] *See, e.g.*, Nicholas Economides, *Why Imposing New Tolls on Third-Party Content and Applications Threatens Innovation and Will Not Improve Broadband Providers' Investment*, at 13 (January 2010), *citing* Robin Lee and Timothy Wu (2009), *Subsidizing Creativity through Network Design: Zero-Pricing and Net Neutrality*, JOURNAL OF ECONOMIC PERSPECTIVES, vol. 23, no. 3, at 61-76. *See also* Open Internet Coalition Comments, *Preserving the Open Internet*, GN Docket No. 09-191, WC Docket No. 07-52, at 30-36 (filed Jan. 14, 2010) (noting that "there is no guarantee that any profits from prioritizing traffic on their networks would be used to finance capital expenditures. . . [instead] profits simply may be returned to shareholders"); *see also* Reply Comments of Public Knowledge, *Preserving the Open Internet*, GN Docket No. 09-191, WC Docket No. 07-52 (filed Apr. 8, 2010), at 45 (cautioning that "[p]rioritization of users' traffic can raise competitive concerns [and] introduce incentives to increase scarcity").

to a decrease in the quality of service experienced by the end user via the deliberate engineering of higher contention ratios for competitors on the shared portions of the broadband provider's pipe. In a scenario most relevant to the video market, by allocating large portions of their pipes to optimize their own online video services, broadband providers effectively squeeze competing movie and television services (*e.g.*, DishOnline, YouTube, Amazon, Netflix) into a downsized public Internet-portion of the pipe, thereby placing such services at a competitive disadvantage.

Because the harms outweigh the benefits, the Commission must apply open Internet safeguards, including most crucially a nondiscrimination rule, to all instances where broadband providers place their own IP-delivered video on dedicated bandwidth, and to all paid prioritization arrangements.

B. The Commission Should Mandate "Like-for-Like" Treatment for Specialized Services and Their Competitors

At a minimum, the Commission should require specialized services providers to adhere to a nondiscrimination rule that would require "like-for-like" treatment of the specialized service and its competitive alternatives within the same class of service. If a broadband provider chooses to move its own IP-delivered video services to a dedicated sliver of bandwidth on its pipe, for example, then a competitor's online video service delivered over the public Internet portion of the pipe should be afforded the same or better treatment. Other examples of "classes" of service that should be subject to "like-for-like" treatment include online gaming, streaming music service, and Voice Over Internet Protocol ("VoIP") service.

In the prioritization arena, this principle would be applied to give the same latency and jitter protections to an application or type of service (for example, HD video programming), whether offered by the broadband provider or a competitor. If Comcast increases the

prioritization of the delivery of its own video delivered over IP using DPI-based prioritization within the public Internet portion of the pipe, then the same priority treatment should extend to online video services offered by DISH or any other video provider.

C. The Commission Must Establish and Utilize Broad Disclosure Rules to Enforce "Like-for-Like" Treatment

Enforcement of "like-for-like" treatment of similar services, such as IP-delivered video, requires broad disclosure rules. DISH supports the *Public Notice's* proposal to "[r]equire [broadband] providers to disclose information sufficient to enable consumers, third parties, and the Commission to evaluate and report on specialized services, including their effects on the capacity of and the markets for broadband Internet access service and Internet-based content, applications, and services."[14] Disclosure alone is insufficient, however. The Commission cannot fulfill its mandate to protect the public interest if it merely evaluates and reports on specialized services. Disclosure is valuable only if it becomes the tool for enforcement of the rules.

Were the Commission to permit specialized services subject to the proposed "like-for-like" nondiscrimination rule, the Commission would require ongoing and real insight into the actual practices on broadband networks. Failure to abide by the disclosure rules should have a real (*i.e.*, monetary) impact on the broadband provider. On the surface, disclosure rules will enable competitors to obtain evidence of discrimination to underpin an enforcement case before the Commission. More importantly, however, knowing that their practices are subject to disclosure and enforcement will provide the proper incentive for broadband providers to adhere to nondiscrimination rules on a day-to-day basis.

---

[14] *Public Notice* at 3.

Any disclosure rule should mandate that broadband providers make transparent to end users and competitors the latency and jitter measures of any specialized service they offer. As DISH has noted previously, the Commission should require monitoring agents at national headends and at the edge of the networks to track latency and jitter, so that competitors can measure the performance and delivery of their IP-based services to end users.[15] To the extent a broadband provider serves its IP-delivered video using a portion of its pipe that is separate from capacity used to support broadband access to the public Internet, this fact also should be disclosed. Any competitor offering services of the type also offered by the broadband provider should be able to request a comparative latency and jitter profile of the "like" service. For example, DISH could request a latency and jitter profile from Comcast for HD movies that Comcast makes available to customers as part of its Xfinity service, which could be compared to performance measured by DISH for movies delivered to DISH subscribers whose set-top boxes are connected to a Comcast High Speed Internet connection.

If a comparative latency and jitter profile indicates that a competitor's online video service experiences poorer performance compared to the broadband provider's own online video service, the competitor should be able to file a complaint with the Commission. The burden would be on the broadband provider to prove that the two profiles of latency and jitter (competitor versus broadband provider) are similar and that the degradation of the two services under resource constraints is also similar.

---

15 *See DISH Open Internet Reply Comments* at 7.

V. NONDISCRIMINATION AND DISCLOSURE REQUIREMENTS MUST APPLY WITH EQUAL FORCE TO WIRELESS BROADBAND

Any nondiscrimination rule applied to wireline broadband networks must apply with equal force to wireless broadband networks. DISH vigorously opposes any open Internet proposal, including that proffered by Google and Verizon, that would exclude wireless.[16] There is no viable policy argument to exempting wireless broadband from critical open Internet safeguards, and at least three compelling reasons to apply such rules to wireless. First, as a technical matter, wireless broadband speeds and capacity are increasingly improving to nearly match wireline broadband. Second, consumers increasingly view wireless broadband as a viable alternative to wireline broadband, and a wireless connection could be some consumers' primary portal to access the Internet. Third, although there is generally strong competition in the Commercial Mobile Radio Services ("CMRS") sector for voice services, consumers may not have a sufficiently wide variety of competing wireless broadband providers to check anticompetitive behavior. DISH is not insensitive to the technological and architectural differences between wireline and wireless broadband, but these differences can be addressed through flexibility in allowable "reasonable network management" practices.

Nondiscrimination rules are necessary to protect consumers, because history shows that broadband providers have the incentive[17] and ability[18] to favor or degrade particular

---

16 *See Verizon-Google Legislative Framework.*

17 *See, e.g., Review of the Commission's Program Access Rule and Examination of Programming Tying Arrangements*, 25 FCC Rcd 746 ¶¶ 1-2 (2010) (noting that cable operators repeatedly have harmed competition in the video distribution market by withholding terrestrially delivered, cable-affiliated programming from competing pay-TV providers).

sources of content. As DISH has raised in the docket already, advancements in technology make it possible for broadband providers to degrade their competitors' content by dropping packets, increasing the number of hops, imposing artificial time delays, increasing jitter, blocking, and using a reserved portion of the network to deliver higher QoS.[19]

A. Exempting Wireless Broadband from Nondiscrimination Rules Will Harm Consumers and Stifle the Promise of Broadband Competition

Open Internet rules are important in the wireless realm as consumers increasingly depend on wireless broadband to provide their gateway to the Internet. According to the Pew Internet and American Life Project, as of May 2010, 59 percent of all American adults go online wirelessly using either a laptop or mobile device, up from 51 percent in April 2009. Combined with a declining desktop to laptop computer sales ratio, this represents a marked trend towards wireless Internet connectivity.[20] This trend will only accelerate as mobile devices such as smartphones and tablet computers become more ubiquitous and the next generation of wireless network technology is implemented. Improved speeds and expanded coverage will extend the efficacy of current 3G technologies,[21] while 4G

---

[18] *See, e.g., Formal Complaint of Free Press and Public Knowledge Against Comcast Corp. for Secretly Degrading Peer-to-Peer Applications*, Memorandum Opinion and Order, 23 FCC Rcd 13028, 13031 (2008) (finding that Comcast used deep packet inspection to "falsif[y] network traffic" and send fraudulent reset packets, which signal that the connection to its network should be terminated and a new one established). *See also Madison River Communications, LLC*, Order, 20 FCC Rcd 4295 (2005) (adopting a consent decree to resolve an investigation into Madison River Telephone Company's alleged blocking of Voice-Over-the-Internet applications).

[19] *See DISH Open Internet Reply Comments* at 9.

[20] *See* Aaron Smith, *Mobile Access 2010*, *Pew Internet and American Life Project*, July 7, 2010, *available at* http://www.pewinternet.org/Reports/2010/Mobile-Access-2010.aspx (last visited Oct. 12, 2010).

[21] *See* Peter Rysavy, *Transition to 4G: 3GPP Broadband Evolution to IMT-Advanced, Rysavy Research*, September 2010, at 16, *available at* http://www.4gamericas.org/documents/3G_Americas_RysavyResearch_HSPA-LTE_Advanced_FINALv1.pdf (last visited Oct. 12, 2010) (predicting that HSPA+, an advanced 3G technology, will eventually reach speeds of 168 Mbps) ("*Rvsavy Research 4G Report*").

technologies such as WiMax and especially LTE will offer wireless service that "…easily rival[s] the speeds of wired connections."[22] The resulting network parity will fundamentally alter the way in which consumers access the Internet in the future, allowing consumers to utilize wireless networks as their primary method of Internet access. Such a shift is already taking place. MetroPCS has launched the first LTE network in America, boasting speeds up to ten times faster than those experienced by current 3G wireless customers.[23] A state-of-the-art network, combined with improved smartphone technology,[24] allows customers to forego traditional residential wired connections in favor of wireless. Tom Keyes, COO of MetroPCS, states that around 90 percent of the company's customers use data on their mobile devices, and nearly half use their phone as their "primary Internet connection."[25] This is illustrative of a shift in consumer perception in which networks, whether wired or wireless, are viewed simply as gateways to the same Internet. As a result, the Commission would fail entirely in its efforts to protect consumers if it exempted wireless broadband networks from open Internet safeguards.

---

22 *See* Frederic Lardinois, *3G, 3.5G, 4G, LTE & WiMAX: Beyond the Marketing Speak, Read, Write, Web*, Sept. 16, 2010, *available at* http://www.readwriteweb.com/archives/3g_35g_4g_lte_wimax_beyond_the_marketing_speak.php (last visited Oct. 12, 2010).

23 *See* Mark Raby, *MetroPCS Launches First LTE 4G Wireless Network, TG Daily*, Sept. 21, 2010, *available at* http://www.tgdaily.com/mobility-brief/51645-metropcs-launches-first-lte-4g-wireless-network (last visited Oct. 12, 2010).

24 *See Rvsavy Research 4G Report* at 25 (observing that "[s]martphones are becoming extremely powerful computers with general purpose operating systems and sophisticated application development environments").

25 *See* Stacey Higginbotham, *MetroPCS: This Isn't the LTE Network You're Looking For*, GigaOm, Sept. 21, 2010, *available at* http://gigaom.com/2010/09/21/metropcs-this-isnt-the-lte-network-youre-looking-for/ (last visited Oct. 12, 2010).

B. Open Internet Safeguards Are Necessary Due to Lack of Adequate Competition in the Wireless Broadband Marketplace

Despite the recent successes in rolling out next generation wireless broadband networks, these networks are still largely confined to a few high-density, urban areas. A large percentage of the American population will lack, for the foreseeable future, truly competitive wireless broadband alternatives. The Commission should therefore reject outright any claims that competition in the wireless marketplace obviates the need for open Internet rules for wireless broadband access. Today, nearly a quarter of the U.S. population lives in census blocks where two or fewer mobile broadband providers provide some coverage, while some 42 percent only have access to three or fewer.[26] Given the nature of that measurement (on a census block basis), actual mobile broadband coverage where people live and work is likely poorer than those numbers would suggest.[27] Rural mobile broadband is far worse. According to the Commission's 2010 *Wireless Competition Report*, 39 percent of people living in rural areas have access to one or fewer providers, while more than 70 percent have access to two or fewer.[28] And, again, actual mobile broadband coverage is likely far worse than reported coverage.

---

[26] *See Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless,* Fourteenth Report, FCC 10-81, WT Docket No. 09-66, ¶ 45, Table 7, ¶ 355, Table 39 (rel. May 20, 2010).

[27] *See id.* ¶ 40 ("We note that [our coverage] analysis likely overstates the coverage actually experienced by consumers, because American Roamer reports advertised coverage as reported to it by many mobile wireless service providers . . . .The data do not expressly account for factors such as signal strength, bit rate, or in-building coverage, and they may convey a false sense of consistency across geographic areas and service providers.").

[28] *See id.* ¶ 355, Table 39.

C. Allowance for Reasonable Network Management Practices Will Give Wireless Broadband Providers Sufficient Flexibility Under a Nondiscrimination Rule

The Commission should reject any assertions that wireless broadband should be exempt from a nondiscrimination rule due to technical and operational constraints unique to wireless. Such considerations simply require appropriate allowances for reasonable network management, but not an outright exemption from basic open Internet safeguards that protect consumers and promote innovation. DISH appreciates the unique capacity limitations of mobile wireless broadband given its non-fixed nature and the finite spectrum resources available. DISH wants consumers to have a good experience when using their wireless broadband devices and services, but this can be accomplished without abandoning open Internet principles.

Any "reasonable network management" exception should be limited solely to a set of engineering practices legitimately related to network congestion. Unless the Commission explicitly confines the exception to congestion-based traffic management, wireless broadband providers could throttle or block third-party applications without regard for the actual bandwidth used. Unless the scope of the exception is limited in this way, anticompetitive blocking and degrading of third-party content will escape enforcement. The Commission should deem any provider-, content-, or application-specific network management practice *per se* unreasonable and not subject to any exception.

DISH does not oppose the offering of consumption-based wireless broadband service packages as an additional tool that could ease network congestion, provided that economic discrimination is prohibited. As the *Public Notice* observes, consumption-based service models could reduce broadband providers' incentives to "employ more restrictive network

management practices that could run afoul of open Internet principles."[29] Consumption-based wireless broadband service plans, provided they are fully disclosed and explained, could promote consumer choice and efficiency by adjusting monthly service fees for high-bandwidth and low-bandwidth users. Such usage plans could undermine the Commission's efforts to promote the open Internet, however, unless wireless broadband providers are explicitly prohibited from making business arrangements that exempt certain content or applications from the data cap imposed on a particular customer. All of a customer's data usage should count toward the monthly data allotment for which she has paid. For example, AT&T should not be permitted to mandate tiered pricing for its wireless data customers, but then exempt data associated with specific applications or sources. Such a loophole would enable AT&T to steer end users to choose applications and content owned by AT&T or one of its business partners over third-party applications and content.

D. Wireless Broadband Providers Should Not Be Permitted to Block Lawful Applications in the App Stores and on Their Networks

DISH opposes any Commission rule that would sanction the blocking of lawful applications by wireless broadband providers. The *Public Notice* asks whether "mobile wireless providers [should] be permitted to prevent or restrict the distribution or use of types of applications that may intensively use network capacity, or that cause other network management challenges."[30] DISH objects to any allowance for wireless broadband providers to block lawful applications. As an example, AT&T blocked access for more than a year to

[29] *Public Notice* at 4.

[30] *Id.* at 5.

the 3G version of the SlingPlayer Mobile,[31] an application that provides consumers with a user-friendly and affordable means to view their home television programming on a number of different mobile devices, including many smartphones.[32] Sling was rejected by AT&T and Apple for use on AT&T's 3G network, even though other applications that offered streaming video were allowed, and some of those other applications consumed more than three times the bandwidth as the SlingPlayer. To preserve openness and accessibility, network operators should not be permitted to deny subscribers access to desirable applications under the guise of network management, while at the same time allowing more bandwidth-intensive applications that are financially tied to the broadband provider.

To the extent wireless broadband providers experience network congestion or other difficulties due to use of high-bandwidth applications by consumers, the Commission should allow targeted, tailored, temporary congestion-based network management practices to ensure good consumer experiences. Blocking consumer access to lawful applications is not an appropriate solution. To help application developers deploy products that are less likely to burden networks, mobile wireless broadband providers should be required to provide application developers with specific information pertaining to the amount of bandwidth a mobile application may use, and do so in a transparent fashion. Any limits or caps should

---

[31] The Slingbox turns any Internet-connected personal computer into a consumer's living room television. The Sling interface allows consumers to watch their home television anytime on their computer with full use of their remote control and the ability to access live and recorded programming. Sling has further invested in SlingPlayer Mobile applications that provide those same functionalities on smartphones. The SlingPlayer Mobile applications support any type of high-speed Internet connection on a mobile device, including 3G or above cellular services, including EV-DO, HSDPA and WiFi.

[32] For a full explanation of Sling's experience with AT&T and the Apple App store, *see* Comments of Sling Media, *Preserving the Open Internet*, GN Docket No. 09-191 (filed Jan. 14, 2010).

apply equally to all interested application providers to ensure fairness and promote competition.

VI. CONCLUSION

To preserve an open Internet and foster competition in the rapidly-evolving video marketplace, the Commission should promptly adopt clear, enforceable open Internet rules. Broadband providers should not be permitted to use an exception for "specialized services" to escape open Internet safeguards, which would harm consumers and frustrate innovation and competition. All open Internet rules should apply with equal force to both wireline and wireless broadband services, and any future technologies that provide broadband Internet access.

Respectfully submitted,

/s/

Jeffrey H. Blum, Senior Vice President &
Deputy General Counsel
Alison A. Minea, Corporate Counsel
DISH NETWORK L.L.C.
1110 Vermont Avenue NW, Suite 750
Washington, D.C. 20005
(202) 293-0981

October 12, 2010